Table 1. Families Mesotaeniaceae and Gonatozygaceae

Family	Genus	Species	Lakes	Description from Colombia	Drawing
Mesotaeniaceae	*Mesotaenium* Naegeli 1849	*Mesotaenium endlicherianum* Nageli 1849, Gattung. einz. Algen, p. 109, pl. 6-13, var. *Endlicherianum*	Larga #1, Presentacion, Santiago, Magdalena, Buitrago, Los Tunjos.	Cells elliptical, straight. Poles broadly rounded. Chloroplast axial. Length: 30-45 μm; width: 12-17 μm. First report from Colombia.	Fig. 2, #1.
		Mesotaenium endlicherianum var. *grande* Nordstedt 1879, in Whittrock & Nordstedt, Alg. Exsic. 1879, No. 271.	Presentacion	Cells elliptic. Poles rounded. Chloroplast axial, 2 pyrenoids in each semi-cell. Length: 70 μm; width: 15-17 μm. First report from Colombia.	Fig. 2, #2.
	Cylindrocystis Meneghini 1838	*Cylindrocystis brebissonii* Meneghini var. *jenneri* (Ralfs) Reinsch & Kirchner ex Honsgirg 1886, Prodr. Algenfl. Bohmer 1:175.	Buitrago, Larga #2	Length: 50-55 μm; width: 20-25 μm. First report from Colombia.	Fig. 2, #4.
		Cylindrocystis brebissonii Meneghini var. *turgida* Schmidle 1895a, Osterr. Bot. Zeits. 45:309, pl. 14, fig. 15.	Rebolledo, Larga #1, Presentacion, Magdalena, Buitrago, Los Tunjos	Poles rounded-truncate or somewhat truncate. Length: 42-75 μm; width: 30-38 μm. First report from Colombia.	Fig. 2, #3.
	Netrium (Naegeli) Itzigsohn et Rothe in Rabenhorst 1856.	*Netrium digitus* (Ehrenberg) Itzigson & Rothe 1856, in Rabenhorst's Alg. Sachsen, No. 508.	San Rafael, Rebolledo, Larga #1, Presentacion, Magdalena, Buitrago, Guatavita, Los Tunjos, Chisaca, Larga #2	Chloroplast with longitudinal serrate stripes; several pyrenoids in each semi-cell. Length: 120-198 μm; width: 40-50 μm.	Fig. 2, #5.
		Netrium oblongum (De Bary) Lutkemuller 1902, Beitr. Bot. Pflanz. 8:407.	Rebolledo, Guamuez, Buitrago.	Chloroplast radiate, with 9 longitudinal serrated stripes. Length: 115-165 μm; width: 38-40 μm. First report from Colombia	Fig. 2, #6.
Gonatozygaceae	*Gonatozygon* De Bary 1856	*Gonatozygon aculeatum* Hastings 1892, Am. Month. Micr. J. 13: 29. fig. 1.	Chingaza	Cell wall with small spines, except at the poles. Chloroplast with 6 to 9 pyrenoids. Length: 148-350 μm; width: 11-20 μm.	Fig. 2, #7.
		Gonatozygon brebissonii de Bary 1858, Untersuch, Fain. Conjugat. p. 77, pl. 4, figs. 26,27.	Chingaza	Cell wall with minutely granules densely arranged. Chloroplast with 6 to 16 pyrenoids. Length: 79.9-263 (291) μm; width: 3.5-11 μm.	Fig. 2, #8
		Gonatozygon kinahani (Archer) Rabenhorst 1868, Flora Europ. 3: 156.	San Rafael	Chloroplast with 3 to 10 pyrenoids. Length: 310-410 μm; width: 15 μm.	Fig. 2, #9.
		Gonatozygon monotaenium De Bary 1856, in Rabenhorst's Algen, No. 539.	San Rafael, Guatavita	Chloroplast with 6 to 9 pyrenoids. Length: 245-340 μm; width: 12-15 μm.	Fig. 2, #10.

Table 2. Families Peniaceae and Closteriaceae

Family	Genus	Species	Lakes	Description from Colombia	Drawing
Penicaceae	*Penium* Brebisson ex Ralfs 1848.	*Penium polymorphum* Perty 1852, Kleinster Labensf. p. 207, pl. 16, fig. 15.	Robolledo, Larga #1, Presentacion, Magdalena, Cumbal, Buitrago, Los Tunjos	Cells slightly constricted in the midregion; presence of girdle bands. Length: 58-80 μm; width: 25-35 μm. First report from Colombia.	Fig. 2, #11.
		Penium spirostriolatum Baker 1869, Proc. Dublin Microsc. Club. 9: 194; Cooke 1886, Brit. Desm. p. 39, pl. 15, fig. 9.	Silencio	Length: 280 μm; width: 30 μm.	Fig. 2, #12.
Closteriaceae	*Closterium* Ralfs 1848	*Closterium acerosum* (Schrank) Ehrenberg 1828, Symbol. Physicae, pi. 2, fig. 9.	San Rafael	Chloroplast with 5 to 12 longitudinal lines and 5 axial pyrenoids. Length: 800 μm; width: 50 μm.	Fig. 2, #13.
		Closterium acutum (Lyngb.) de Brebisson ex Ralfs 1848, Brit. Desm. p. 177, pl. 30, fig. 5; pl. 34, fig. 5.	Chingaza	Chloroplast with 2 to 5 axial pyrenoids. Length: 70-231 μm; width: 3-10 μm.	Fig. 2, #14.
		Closterium angustatum Kützing 1845, Phycol. German. p. 132, Krieger 1937, Rabenhorst Kryptogamen-Flora 13: 363, pl. 35, figs. 2-4.	Cusiyaco	Axial chloroplast with 6 to 10 pyrenoids. Terminal vacuoles with few granules. Length: 640 μm, width: 28 μm.	Fig. 2, #16
		Closterium gracile de Brebisson 1839; In: Chevalier Microsc. et Leur Usage; 1856, Mem. Soc. Imper. Sci. nat. Chebourg, 4:155, pl. 2, fig. 45.	Chingaza	Chloroplast with 4 - 7 axial pyrenoids. Length: 90-320 μm; width: 3-11 μm.	Fig. 2, #15.
		Closterium kuetzingii de Brebisson 1856, Mem. Soc. Imper. Nat. Cherbourg. 4:156, pl. 2, fig. 40.	Chingaza	Chloroplast with 4 to 7 axial pyrenoids. Length: 258-785 μm; width: 13-27 μm.	Fig. 2, #19.
		Closterium moniliferum (Bory) Ehrenberg 1838, Infusions. Volkomm. Organism. p. 91, p1.5, fig. 16.	Chingaza, Cajitas	Chloroplast with longitudinal lines ridges and 4 to10 axial pyrenoids; terminal vacuole with about 10 granules. Length: 285 μm; width: 70 μm; apex: 10 μm.	Fig. 2, #22.
		Closterium rostratum Ehrenberg var. *subrostratum* Krieger 1937, Rabenhorst's Kryptogamen Flora 13:356, pl. 33, figs. 6,7.	Larga #2	Chloroplast with 6 - 8 axial pyrenoids. Length: 290 μm; width: 20 μm; apex: 5 μm. First report from Colombia.	Fig. 2, #18.
		Closterium setaceum Ehrenberg 1835, Phys. Abh. d. K. Akad. Wiss. Berlin 1833: 239.	Rebolledo, Magdalena, Chingaza	Chloroplast with 2 or 3 axial pyrenoids, terminal vacuole with 4 granules. Length: 310-340 μm; width: 15-18 μm.	Fig. 2, #17.

		Closterium striolatum Ehrenberg 1832, Phys. Abh. d. K. Akad. Wissen. Berlin 1831: 68.	San Rafael, Rebolledo, Larga #1, El Silencio, Cajitas	Cells with poles broadly truncate. Chloroplast with 5 - 13 longitudinal ridges and with 4 to 10 axial pyrenoids. Length: 280-500 μm; width: 20-40 μm.	Fig. 2, #20.
		Closterium venus Kutzing 1845, Phycol. Germanica, p. 130.	Magdalena, Cumbal, Chingaza	Cell wall colorless, without stripes. Chloroplast with 1 or 2 axial pyrenoids. Length: 46-94 μm; width: 6-14 μm.	Fig. 2, #21.

Table 3. Family Desmidiaceae

Family	Genus	Species	Lakes	Description from Colombia	Drawing
Desmidiaceae	*Pleurotaenium* Naegeli 1848.	*Pleurotaenium minutum* (Ralfs) Delponte 1878, Metn. R. Acad. Sci. Torino, 11, 28:131, pl 20, figs. 17-21.	Rebolledo, Los Tunjos	Cells cylindrical, with a shallow constriction in the isthmus and with the base of the semi-cell slightly or not at all swollen, attenuate towards the apex. Length: 110 μm; width: 15 μm; apex: 8 μm.	Fig. 2, #23.
		Pleurotaenium trabecula (Ehr.) Nageli 1849, Gattung einz. Algen, p. 104, pl. 6, fig. 4.	Guatavita, Los Tunjos	Cells cylindrical, slightly swollen in the midregion, attenuated toward the apex. Length: 690-725 μm; width: 45-60 μm; apex: 25-30 μm.	Fig. 2, #24.
	Tetmemorus Ralfs 1848.	*Tetmemorus brebissonii* (Menegh.) Ralfs 1844, Ann. Mag. Nat. Hist. 14, 257, pl. 8, fig. 1.	Rebolledo	Chloroplast axial with 8 radiating plates, and between 2 - 9 pyrenoids. Length: 145 μm	Fig. 2, #25.
		Tetmemorus granulatus (Breb.) Ralfs var. *attenuatus* West 1892,Jour, Linn. Soc. Bot. London 29:132. pl. 20, fig. 7.	Rebolledo	Cell wall punctate; pores with a horizontal row close to the isthmus. Length: 320-340 μm; width: 45-55 μm. First report from Colombia.	Fig. 2, #26.
		Tetmemorus laevis (Kutz.) Ralfs 1848, Brit. Destn. p. 146, pl. 24, fig. 3.	Larga #1, Magdalena	Axial chloroplast with 8 longitudinal radiate plates and toothed at their margins. Length: 120 μm; width: 25 μm; isthmus: 22 μm.	Fig. 2, #27.
	Euastrum Ehrenberg ex Ralfs 1848	*Euastrum cuneatum* Jenner ex Ralfs 1848, Brit. Desm. p. 90, pl. 32, fig. 3.	Rebolledo, Magdalena	Semi-cells cuneate. Apical margin flat, with a narrow and shallow middle incision. Apical angles round. Frontal view with three protuberances above the isthmus. Cell wall punctate. Length: 70-80 μm; width: 170 μm; isthmus: 20-40 μm. First report from Colombia.	Fig. 3, #28.
		Euastrum oblongum (Grev.) Ralfs 1848, Brit. Desm. p. 80, pl. 12.	San Rafael, Rebolledo, Cusiyaco, Los Tunjos	Basal lobes subrectangular, bi-lobed. A deep incision between the basal lobes and lateral lobes, as well as between them and the polar lobe. Angles round. The semi-cell presents a protuberance above the isthmus. Cell wall punctate. Lateral margins with 5 undulations. Length: 160-180 μm; width: 80-90 μm; isthmus: 30 μm.	Fig. 3, #29.
		Euastrum sublobatum Brebisson ex Ralfs 1848, Brit. Desm. p. 91, pl. 32, fig. 4.	San Rafael, Rebolledo, Larga #1, Presentacion, Magdalena, Los Tunjos	Semi-cells subquadrate. Lateral basal angles rounded. Apical margin convex-truncate. Cell wall smooth. Length: 25-40 μm; width: 19-35 μm; isthmus: 5-10 μm. First report from Colombia.	Fig. 3 #30.
		Euastrum turneri Irenee-Marie 1958, Nat. Canadien 85(5): 143, fig. 24.	San Rafael, Presentacion.	Basal angles bi-undulated. Basal margins retuse. Between the polar and lateral lobules, there is a deep crack. Polar lobule with a small spine in the apical angle. Length: 52 μm, width: 40 μm; isthmus: 10 μm. First report from Colombia	Fig. 3, #31.

	Micrasterias C.A. Agardh ex Ralfs 1848	*Micrasterias jenneri* Ralfs var. *simplex* West 1890, lour. Roy. Microse. Soc. 1890: 287. pl. 6, fig. 34.	Rebolledo, Buitrago, Los Tunjos.	Cell wall punctate. Length: 200-220 μm; width: 130-150 μm; isthmus: 30 μm. First report from Colombia.	Fig. 3, #33.
		Micrasterias papillifera Breb. ex Ralfs 1848, Brit. Desm. p. 72, pl. 9, fig. 1.	Chingaza	Length: 95-170 μm; widht: 95-170 μm.	Fig. 3, #35.
		Micrasterias radiosa Ralfs 1848, Brit. Destn. p. 72, pl. 8, fig. 3.	Chingaza	Length: 121-320 μm; width: 120-314 μm.	Fig. 3, #34.
		Micrasterias rotata (Grev.) Ralfs 1848, Brit. Desm. p. 71, pl. V111, fig. la.	Guatavita	Length: 320 μm; width: 300 μm.	Fig. 3, #36.
		Micrasterias truncata (Cords) Breb. ex Ralfs 1848, Brit. Desnl. p. 75, pl. V111, fig. 4; pl. X, fig. 5.	Los Tunjos	Length: 130-140 μm; width: 120-140 μm, isthmus: 30-50 μm.	Fig. 3, #32.
	Actinoctaenium (Naegeli) Schellenberg 1897	*Actinoctaenium cucurbitinum (Biss)* Teiling var. *longum* (Scott & Gronblad) Croasdale comb. nov.	Presentacion, Larga #2	Apex rounded. Cell wall porous and with a single line of pores above the isthmus. Length: 75 μm; width: 20μm. First report from Colombia.	Fig. 3, #37.
	Cosmarium Ralfs 1848.	*Cosmarium abbreviatum* Raciborski var. *minus* (West et West) Krieger et Gerloff 1969, Die Gattung Cosmarium 3/4, p. 242; 1965, 2. pl. 42, fig. 18.	Rebolledo, Guatavita	Semi-cells oval. Middle constriction deep. Sinus narrow and closed. Lateral margins straight. Lateral angles rounded. Apical margins truncate-straight. Cell wall smooth. Length: 20 μm; width: 15-18 μm. First report from Colombia	Fig. 3, #44.
		Cosmarium amoenum (Breb.) Ralfs 1848, Brit. Desm. p. 102, pl. 17, fig. 3.	Rebolledo, Larga #1, Los Tunjos, Larga #2	Chloroplast with 2 pyrenoids in each semi-cell. Length: 52-70 μm; width: 30-45 μm; isthmus: 5 μm.	Fig. 3, #55.
		Cosmarium binum Nordstedt 1880, in Wittrock & Nordstedt, Alg. Exsicc No. 383.	San Rafael, Presentacion	Semi-cells trapeziform-rounded. Lateral margins with 6 to 10 emarginated crenations, with granules. Frontal view of the semi-cell with a radiated series of granules. In the middle region, there is a protuberance with 7 vertical lines of granules. A transversal line of big granules above the isthmus. Length: 80 μm; width 60 μm; isthmus: 15 μm.	Fig. 3, #57.
		Cosmarium contractum Kirchner 1878, in Cohn's Kryptogamen Flora Schlesiensis 2(1):147.	Larga #1, Magdalena, Guamuez, Los Tunjos, Chisaca, Cajitas	Axial chloroplast with one central pyrenoid. Length: 35-40 μm; width: 22-32 μm; isthmus: 7-12 μm.	Fig. 3, #40.
		Cosmarium depressum (Nag.) Lundell var. *achondrum:* (Boldt) West & West 1905a, Trans. Roy. Soc. Edimburgh 41(3):484; 1905. Monogr. 11, p. 177, pl. 62, figs. 6,7.	Rebolledo, Magdalena, Guamuez, Los Tunjos	Axial chloroplast with one pyrenoid. Length: 42-60 μm; width: 40-42 μm; isthmus: 15 μm. First report from Colombia.	Fig. 3, #49.
		Cosmarium hammeri Reinsch var. *homalodermum* (Nordst.) West & West 1905, Monogr. 11. p. 182, pl. 62, figs. 22, 23.	Magdalena, Guamuez,	Chloroplast with one or two pyrenoids. Length: 45-52 μm; width: 30-35 μm; isthmus: 10-15 μm. Specimens slightly smaller than those reported by Prescott et al. (1981).	Fig. 3, #45.

		Cosmarium malmei Borge 1903, Ark. f. Bot. 1:85, pl. 2, fig. 11.	Rebolledo, Larga #1, Presentacion, Larga #2.	Cell wall with granules distributed in 8 vertical series. Length: 55-60 μm; width: 35-40 μm; isthmus: 30-35 μm. First report from Colombia.	Fig. 3, #53.
		Cosmarium margaritatum (Lund.) Roy et Bissett var. *rotundatum* Hirano 1968, Contrib. Biol. Lab. Kyoto Univ. 21:24, pl. 7, fig. 1.	Rebolledo, Larga #1, Cusiyaco	Semi-cells slighty reniform. Cell wall with granules distributed in an oblique manner. Length: 110 μm; width: 80 μm; isthmus: 20-25 μm. First report from Colombia.	Fig. 3, #56.
		Cosrnarium portianum Archer var. *orthostichum* Schmidle 1893a, Bar. d. Deutsch. Bot. Ges. 11(10): 549, pl. 28, fig. 7.	San Rafael, Guamuez	Cell wall with granules distributed in 6 horizontal series. Length: 40-45 μm; width: 35 μm; isthmus: 10-15 μm. First report from Colombia.	Fig. 3, #54.
		Cosmarium pseudoamoenum Wille 1884, Brit. Kongl. Svenska Vet. Akad. Handl. 8(18):18 pl. 1, fig. 37.	Rebolledo, Larga #1, Guatavita, Los Tunjos, Larga #2	Chloroplast with one pyrenoid. Length: 50-60 μm; width: 30-32 μm; isthmus: 25-28 μm. Specimens are slightly bigger than those reported by Prescott et al (1981) for North America. First report from Colombia.	Fig. 3, #58.
		Cosmarium pseudoconnatum Nordstedt 1870, Vindesk, Medd. Naturh. foren. Kjobenhavn 1869(14/15): 214. pl. 3; fig. 17.	Rebolledo, Presentacion, Magdalena, Gaumuez	Lateral view similar to frontal view. Vertical view circular. 4 parietal chloroplasts in each semi-cell. Length: 52-65 μm; width: 48-55 μm; isthmus: 20-60 μm.	Fig. 3, #48.
		Cosmarium pseudoexiguum Raciborski 1885, Patniet. Wydz. III, Akad. Umiej. W. Krakowie 10:71, p. 10, fig. 8.	Rebolledo, Larga #1, Magdalena, Los Tunjos	Vertical and lateral view oval. Length: 30 μm; width: 15 μm; isthmus: 7 μm. First report from Colombia.	Fig. 3, #43.
		Cosmarium pseudopyramidatum Lundell 1871, Nova Acta Reg. Soc. Sci. Upsaliensis, III, 8(2):41, pl. 2, fig. 18.	Guatavita	Axial chloroplast with one pyrenoid. Length: 50-55 μm; width: 30-32 μm; isthmus: 10 μm. First report from Colombia.	Fig. 3, #51.
		Cosmarium punctulatum Brebisson 1856, Liste Desm. p. 129, pl. 1, fig. 16.	San Rafael	Description from Colombia: Length: 30-45 μm; width: 25-38 μm; isthmus: 7.5-13 μm.	Fig. 3, #52.
		Cosmarium pyramidatum Brebisson, in Ralfs 1848, Brit. Desm. p. 94, pl. 15, fig. 4a-c.	San Rafael, Rebolledo, Magdalena	Chloroplast with one or two pyrenoids. Length: 90-160 μm; width: 65-140 μm; isthmus: 16-30 μm. First report from Colombia.	Fig. 3, #50.
		Cosmarium quadrum Lundell 1871, Nova Acta Reg. Soc. Sci. Upsaliensis, 111, 8(2):25, fig. 11.	Guamuez, Guatavita, Larga #2	Length: 60-75 μm; width: 70-80 μm; isthmus: 20 μm.	Fig. 3, #59.
		Cosmarium rectangulare Grunow var. *hexagonum* (Elfv.) West& West, 1908, Monogr. 111, p. 56, pl. 70, fig. 4.	Guatavita, Larga #2.	Length: 24 or 25 μm; width 20-25 μm.	Fig. 3, #39.
		Cosmarium subcucumis Schmidle 1893, Ber. Naturf. ges. Freiburg. Br. 7(1):98, pl. 4, figs. 20-22.	San Rafael, Rebolledo, Larga #1, Presentacion, Guatavita, Los Tunjos	2 axial chloroplasts, each of them with one pyrenoid. Length: 85-92 μm; width: 50-60 μm; isthmus: 25-30 μm.	Fig. 3, #41.

		Cosmarium tenue Archer var. *depressum* Irenee-Marie 1952, Hydrobiologia 4(1/2):134, pl. 12, fig. 11.	San Rafael, Rebolledo, Cumbal	Length: 15 μm; width: 18 μm. First report from Colombia.	Fig. 3, #38.
		Cosmarium venustum (Breb.) Archer, in Pritchard 1861, Hist. Infusor. p. 732. var. *venustum.*	Rebolledo, Los Tunjos	Lateral margins tri-undulated. Axial chloroplast with one pyrenoid. Length: 48 μm; width: 30 μm; isthmus: 10 μm.	Fig. 3, #46.
		Cosmarium venustum var. *basichondrum* (Nordst.) Krieger et Gerlof 1965, die Gattung Cosmarium 2, p. 197, pl. 38, fig. 7.	Cusiyaco	This variety is different from the type because presents one wart right above the isthmus; length: 80 μm; width: 50 μm, isthmus: 30 μm. First report from Colombia.	Fig. 3, #42.
		Cosmarium venustum var. *excavatum* (Eich. et Grutw.) West & West 1895x. Jour. Bot. 33:68.	Rebolledo, Presentacion, Los Tunjos	This variety presents one ocella in the middle region of each semi-cell. Length: 28-35 μm; width: 22 μm; isthmus: 5-8 μm. First report to Colombia.	Fig. 3, #47.
	Arthodesmus Ehrenberg ex Ralfs 1848.	*Arthrodesmus octocornis* Ehrenberg ex Archer in Pritchard 1861, Infusoria, p. 736, pl. 1, fig. 30.	Santiago, Los Tunjos, Chisaca, Cajitas, Larga #2	Lateral, apical and basal margins slightly concave. Basal and apical angles rectangular-rounded, with a long, straight and diverging spine. Length: 18-20 μm; width: 18-20 μm; isthmus: 5 μm.	Fig. 4, #69.
	Xanthidium Ehrenberg ex Ralfs 1848	*Xanthidium antilopaeum* Ehrenberg var. *hebridarum* West & West, 1905a, Trails Roy. Soc. Edimbourgh, 41(3):500, pl. 7, fig. 21.	Rebolledo, Chingaza	Semi-cells with one spine in the center. It presents a small, obtusely mammillate protuberance. Vertical view elliptical. Three spines on each lateral margin. Length: 60-80 μm; width: 55-60 μm; isthmus: 20-30 μm. First report from Colombia.	Fig. 4, #70.
		Xanthidium armatum (Breb.) Rabenhorst var. *cervicorne* West & West, 1898, Linn. Soc. Jour. Bot. 33:300, text fig. 3.	Rebolledo	Semi-cells with one wart ended in a ring of teeth. Lateral view oval-rectangle. Vertical view elliptic-oblong. Cell wall punctate. Length: 170-190 μm; width: 100-110 μm; isthmus: 50 μm. First report from Colombia.	Fig. 4, #71.
	Hyalotheca Ehrenberg ex Ralfs 1848	*Hyalotheca dissiliens* (Smith) Brébisson ex Ralfs var. *dissiliens* fo. *bidentula* (Nordst.) Boldt 1888, Bill. Kongl. Svenska Vet. Akad. Handl. 13, 111, (5):43.	San Rafael, Cusiyaco, Magdalena	Lateral margins slightly convex. Length: 19-20 μm; width: 30-35 μm. First report from Colombia.	Fig. 4, #93.
		Hyalotheca mucosa (Mertens) Ehrenberg ex Ralfs Brit. Destn. 53, pl. 1, fig. 2, 1848, fig. 37-38.	Chingaza	Cells sub-rectangular. Lateral margins slightly concave. Apical margin truncate. Length: 11-28 μm; width: 11-27 μm.	Fig. 5, #94.
	Desmidium Agardh ex Ralfs 1848	*Desmidium cylindricum* Greville ex Nordstedt 1878 Acta Univ. Lund. 9:49, figs. 9,14.	Chingaza	Semi-cells with lateral margins convergent and bi-undulated. Axial chloroplast with 4-8 lobules, one pyrenoid in each lobule. Length: 18-42 μm; width: 40-89 μm; isthmus: 33-72 μm.	Fig. 5, #96.
		Desmidium swartzii (C. A. Ag.) C.A. Agardh ex Ralfs var. *amblyodon* (Itzigs) Rabenhorst 1863, Kryptogamfl. Sachs. p. 181.	Rebolledo, Larga #1, Magdalena, Cajitas	Semi-cells with lateral margins round. Axial chloroplast with one pyrenoid. Length: 20 μm; width: 52-55 μm; isthmus: 42-45 μm. First report from Colombia.	Fig. 5, #97.

	Spondylosium Brebisson ex Kutzing.	*Spondylosium planum* (Wolle) West & West, 1912, .1. Linn. Soc.: Ser. bot. 40:130, pl. 19, fig. 5-8.	Chingaza	Filaments wrap in a mucilage sheath. Cells oblong. Middle constriction deep. Sinus open. Lateral margins rounded. Apical margin straight; Cell wall smooth. Vertical view oblong. Poles rounded. Length: 8-11 μm; width: 8.5-11.3 μm; isthmus: 5-6.6 μm.	Fig. 5, #100.
	Staurodesmus Teiling 1948	*Staurodesmus brevispinus* (Breb.) Croasdale f. Croasdale 1957. Trails. Amer. Microsc. Soc 76: 122, pl. 3, f. 49.	Guamuez	Length: 55 μm; width: 45 μm; isthmus: 16 μm. First report from Colombia.	Fig. 4, #66.
		Staurodesmus convergens (Ehr.) Teiling 1948, Bot. Notiser. 1948(1):57.	Chingaza	Length: 30-54 μm; width without spines: 32-64 μm, with spines: 45-90 μm; isthmus: 8-17 μm.	Fig. 3, #61.
		Staurodesmus corniculatus (Lund) Teiling, in Teiling 1948, Bot. Notiser 1948: 76; 1967, Ark. f. Bot. II, 6(11):549, pl. 13, fig. 12.	San Rafael, Guatavita, Chisaca, Cajitas	Length: 25-30 μm; width: 20-30 μm; isthmus: 10 μm.	Fig. 4, #67
		Staurodesmus dejectus (Breb.) Teiling 1954, Rapp. VIII a Congr. Intern. Bot. Paris. Sec. 17:128; 1967, Ark. f. Bot. II, 6(11): 529, pl. 9, figs. 1-3, 4, 5, 7.	Chingaza	Length: 18-25μm; width without spines: 18-28 μm, with spines: 24-28 μm; isthmus: 5-8 μm.	Fig. 4, #68.
		Staurodesmus extensus (Borge) Teiling 1948, Bot. Notiser 1948(1):67, fig. 11.	San Rafael, Rebolledo, Santiago, Magdalena, Chisaca	Length: 15-20 μm; width without spines: 15-16 μm, with spines: 50 μm; isthmus: 7-10 μm.	Fig. 3, #60.
		Staurodesmus quiriferus (West & West) Teiling 1967, Ark. f. Bot. II, 6(11):521, pl. 7, fig. 5.	San Rafael, Santiago, Magdalena, Larga #2	Length: 25-28 μm; width without spines: 20 μm, with spines: 35 μm; isthmus: 9 μm. First report from Colombia.	Fig. 3, #63.
		Staurodesmus subulatus (Kutz.) Thomasson *var.subaequalis (West* & West) Thornasson 1960. Nova Acta Fenn. Soc. Upsaliensis IV. p. 10, f. 20.	Guamuez	Length: 50 μm; width without spines: 50 μm, with spines: 80 μm; isthmus: 16 μm. First report from Colombia.	Fig. 3, #62.
		Staurodesmus triangularis (Lagerh.) Teiling, 1948, Bot. Notiser. 1948(1):62, figs. 63,64, var. *triangularis.*	Guamuez, Santiago	Spines long, straight and parallel. Length: 25-30 μm; width without spines: 20-30 μm, with spines: 90-95 μm; isthmus: 8 μm.	Fig. 3, #65.
		Staurodesmus triangularis var. *subparallelus* (Smith) Teiling 1948, Bot. Notiser. 1948(1):62, figs. 67,68.	Chisaca, Cajitas	This variety differs from the type in the straight apical and basal margins. Length: 25 μm, width without spines: 28-30 μm, with spines: 50-55 μm; isthmus: l0μm.	Fig. 3, #64.
	Bambusina Kutzing ex Kutzing.	*Bambusina brebisonii* Kutzing ex Kutzing 1849, Spec. Algar. 188, figs. 1,2.	Rebolledo, Los Tunjos	Cells in a shape of a barrel. Semi-cells truncate-pyramidal. Lateral margins slightly concave near the base and parallel in the apex. Cell wall smooth. Apical region with longitudinal stripes. Vertical view circular, with two mammillae in the middle region. Length: 35-38 μm; width: 28 μm.	Fig. 5, #98.

	Teilingia Bourrelly 1964.	*Teilingia granulata (Roy* & Bissett) Bourrelly 1964, Revue. Algol.: Ser. nov. 7(2);190, fig. 25.	San Rafael, Cusiyaco, Santiago, Chisaca	Filaments twisted, without mucilage sheath; Semi-cells oblong. Lateral margins rounded, with 3 granules distributed in each apical margin. One intramarginal granule along the transversal axis of the cell. Length: 11-15μm; width: 11 μm.	Fig. 5, #95
	Sphaerozosma Corda ex Ralfs *1848*	*Sphaerozosma aubertianum* West *1889,* Jour. Bot. *27, 206.*	Chingaza	Cells similar to *Cosmarium*, forming filaments. Cell wall with horizontal series of granules around the apex. Central area smooth. Chloroplast with one central pyrenoid. Length: 14-18 μm; width: 15-18 μm; isthmus: 6-7 μm.	Fig. 5, #99.
	Staurastrum Meyen ex Ralfs 1848	*Staurastrum anatinum* Cooke et Wills var. *anatinum* fo. *longibrachiatum* (West & West) Brook 1959, Trans. Roy. Soc. Edinburgh. 63(3): 596, pl. 5, figs. 1-5; pl. 2, fig. 1,2.	Cumbal	Length without processes: 50-60 μm, with processes: 80 μm; width without processes: 30-40 μm, with processes: 160 μm; isthmus: 10 μm. First report from Colombia.	Fig. 5, #90.
		Staurastrum aspinosum Wolle 1884, Bull. Torr. Bot. Club 11(2): 14, pl. 22, figs. 22,23.	Los Tunjos, Chisaca, Cajitas	Cell wall smooth. Triangular in vertical view. Length without processes: 20 μm; width without processes: 15-20 μm, with processes: 55-60 μm; isthmus: 7-10 μm. First report from Colombia.	Fig. 5, #91.
		Staurastrum boreale West & West var. *robustum* Messikammer, 1951, Mitt. Naturf. Gessell Katons Zurich 8: 64, pl. 2, fig. 24	San Rafael, Rebolledo, Larga #1, Cusiyaco, Chisaca, Cajitas	Arms provided with 4 series of short spines with three spines at the end. Margins with emarginated warts and 2 intramarginals series of spines. Spines with granules scattered towards the medium region. Length: 25-40 μm; width with processes: 50-70 μm; isthmus: 10-12 μm. First report from Colombia.	Fig. 4, #80.
		Staurastrum brebissonii Archer var. *brepispinum* West 1892a, Jour. Roy..Microsc. Soc. 8: 731; West & West & Carter, 1923, Monogr. V. p. 61, pl. 137, fig. 6.	San Rafael, Rebolledo, Los Tunjos	Triangular in vertical view. Lateral margins concave and rounded. Angles spiniscent. Smooth in the center. Length: 45-50 μm; width: 40-50 μm; isthmus: 15-20 μm. First report to Colombia.	Fig. 4, #77.
		Staurastrum cosmarioides Nordstedt (1969) 1870, Vid. Medd. f. d. Naturh. Foren. Kjobenhavn. 1969(14/15):223, pl. 4, fig. 43.	San Rafael, Rebolledo	Triangular in vertical view. Margins slightly concave. Angles widely rounded. Length: 60-80 μm; width: 45-55 μm; isthmus: 15-30 μm.	Fig. 4, #73.
		Staurastrum dilatatum (Ehrenberg) Ralfs var. *dilatatum* fo. *productum* Scott et Gronblad 1957, Acta Soc.Sci. Fennicae, 11, B, 2(8):36. pl. 30, fig. 11.	Larga #1, Magdalena	Triangular in vertical view. Sides deeply concave. Angles rounded-truncate. Length: 35 μm; width: 40 μm; isthmus: 15 μm. First report from Colombia.	Fig. 4, #76.
		Staurastrum furcigerum Brebisson, in Meneghini, 1840, Synop. Desm. p. 226; var. *furcigerum.*	Guamuez	Semi-cells elliptic. Sinus acute. Arms short and robust, with 2 spines at the tip. Apex with a process similar to the lateral ones. Triangular in vertical view. Length without processes: 45 μm, with processes: 80 μm; width: 70 μm; isthmus: 20 μm.	Fig. 4, #83.

		Staurastrum furcigerum var. *armigera* (Breb.) Nordstedt. 188a, Vid. Medd. Naturh. Foren. Kjobenhavn. 1888: 207; West & West & Carter 1923, Monogr. V. P 191, p. 156, fig. 10.	San Rafael	Specimen similar to the type, with the inferior ring of processes longer and with an apical ring of 6 accessory processes. All the processes are longer than the type. Length: 45-50 μm; width: 65-70 μm; isthmus: 20 μm.	Fig. 4, #84.
		Staurastrum gracile Ralfs ex Ralfs 1848, Brit. Desm. p. 136, pl. 22, fig. 12.	San Rafael, Cusiyaco, Presentacion, Santiago	Length: 25-37 μm; width without processes: 20-35 μm, with processes: 70-90 μm; isthmus: 13-15 μm.	Fig. 5, #89.
		Staurastrum hirsutum (Ehr.) Ralfs 1848, Brit. De sm. p. 127, pl. 22, fig. 3.	Presentacion	Vertical view triangular. Margins straight. Angles rounded. Center of the apex straight. Length: 35 μm; width: 34 μm; isthmus: 15 μm.	Fig. 4, #74.
		Staurastrum hystrix Ralfs ex Ralfs 1848, Brit. Desm. p. 128, pl. 22, fig. 5.	Rebolledo	Semi-cells oblong. Vertical view triangular. Margins concave between the rounded angles and with 6 spines. Length: 35 μm; width: 30-35 μm; isthmus: 15 or 16 μm. First report from Colombia.	Fig. 4, #75.
		Staurastrum leptacanthum Nordstedt (1869) 1870, Vid. Medd. Naturh. Foren. Kjabenhovn. 1969. 114(15): 279. pl. 4, fig. 46.	Guatavita	Cell wall punctate. Vertical view hexagonal. Length without processes: 35-36 μm, with processes: 70 μm; width without processes: 22-25 μm, with processes: 60 μm; isthmus: 15 μm.	Fig. 4, #78.
		Staurastrum leptocladum Nordsterdt (1869) 1870, Vid. Medd. Naturh. Foren. Kjobenhavn 1869(14/15):228. p 1.4, fig. 57.	Guamuez, Cumbal	Vertical view fusiform. Length without processes: 20 μm, with processes: 100 μm; width: 35 μm, isthmus: 10-12 μm.	Fig. 5, #92.
		Staurastrum longipes (Nordst.) Teiling 1946, Bot. Notiser. 1946(1): 80, fig. 23, var. *longipes*.	Magdalena, Cumbal	Vertical view triangular. Length: 30-40 μm; width without processes: 20-25 μm; width with processes: 90-130 μm; isthmus: 10-12 μm.	Fig. 5, #88
		Staurastrum longipes var. *contractum* Teiling 1946, Bot. Notiser. 1946: 81, figs. 24, 37.	San Rafael, Chisaca, Cajitas, Larga #2	This variety differs from the type in size, because these cells are medium to small, L/W ratio 1.3 to 1.7. Vertical view square. Length: 30-40 μm; width without processes: 20-30 μm; width with processes: 50-62 μm; isthmus: 10-12 μm. First report from Colombia.	Fig. 5, #87.
		Staurastrum muticum (Breb.) Ralfs 1848, Brit. Desm. p. 125, pl. 21, fig. 4, pl. 34, fig.13.	San Rafael, Cusiyaco, Los Tunjos	Semi-cells transversally oval. Apical margin convex, and ventral margin almost straight. Vertical view triangular. Margins concave. Angles rounded. Length: 40-50 μm; width: 40-42 μm; istmus: 10-15 μm.	Fig. 4, #72.
		Staurastrum pendulum Nygaard var. *penguiforme* Croasdale 1958, Trans. Allier. Microsc. Soc. 77(1):31, f. 2.	Guamuez, Cumbal, Chisaca, Larga #2	Vertical view triangular. Length: 30 μm; width without processes: 15 μm, with processes: 60-65 μm; isthmus: 5-7 μm. First report from Colombia.	Fig. 4, #86.
		Staurastrum proboscideum (Breb.) Archer in Pritchard, 1861, Infusor. p. 742; West & West & Carter 1923, Monogr. V, p. 129. pl. 143, figs. 14-16.	Cusiyaco, Los Tunjos	Vertical view triangular. Length: 35-45 μm; width: 35-40 μm; isthmus: 12-15 μm. First report from Colombia.	Fig. 4, #82.

		Staurastrurn sebaldii Reinsch 1867a, Spec. Gen. Algar. p. 133. pl. 24 D-1, figs. 1-3.	San Rafael, Chingaza	Vertical view triangular. Margins slightly convex between the angles. Length: 73-85 μm, width: 69-100 μm; isthmus: 24 μm.	Fig. 4, #79.
		Staurastrum subgracillium West & West var. *tortum* Scott et Gronblad 1957, Acta Soc. Sci. Fennicae, II, B, 2(8):47, pl. 31, f. 21.	Guatavita, Chisaca, Larga #2	Vertical view triangular, with the processes in one direction, alternating with the processes of the other semi-cell. Length: 10-15 μm; width 35 μm; isthmus: 5-10 μm. First report from Colombia.	Fig. 4, #85.
		Staurastrum tohopekaligense Wolle 1885a. Bull. Torr. Bot. Club, 12(12):128. pl. 51, figs. 4,5.	Chingaza	Cell wall smooth. Vertical view triangular. Margins convex. Length without processes: 29-51 μm; with processes: 48-91 μm; width without processes: 23-40 μm, with processes: 46-96 μm.	Fig. 4, #81.